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The oldest record of Alvarezsauridae (Dinosauria: Theropoda) in the Northern Hemisphere

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Abstract

 Procoelous caudal vertebrae, a carpometacarpus with a hypertrophied metacarpal II, and robust proximal and ungual phalanges of manual digit II of a small theropod dinosaur from the Upper Cretaceous (Turonian) Bissekty Formation at Dzharakuduk, Uzbekistan, show unequivocal synapomorphies of the clade Alvarezsauridae and thus are referred to it. The caudal vertebrae have a unique longitudinal canal within the neural arch. The carpometacarpus, with metacarpal III occupying about one third of the width of the carpometacarpus, shows the most plesiomorphic stage of the evolution of the forelimb among known alvarezsaurids. The proximal phalanx of manual digit II differs from the corresponding bone in Parvicursorinae in having a less asymmetrical proximal articular surface without a dorsal process and short ventral ridges. The ungual phalanx of manual digit II has laterally open ventral foramina. The Bissekty alvarezsaurid possibly represents a basal parvicursorine and is the stratigraphically oldest known alvarezsaurid in Asia known to date.

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